

Case 3135***Scyllarus orientalis* Lund, 1793 (currently *Thenus orientalis*; Crustacea, Decapoda): proposed designation of a neotype**

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Abstract. The purpose of this application is to designate a neotype for *Thenus orientalis* (Lund, 1793), a commercially important shovel-nose lobster (family SCYLLARIDAE). A revisionary study of *Thenus* Leach, 1815, long considered to be monotypic, has now recognised five species. All species are morphologically similar and identification can be difficult. A neotype for *T. orientalis* is needed as the remaining dry putative type specimen lacks all legs and mouthparts making certain identification impossible. Species of *Thenus* are found in shallow coastal waters throughout the tropical Indian and Western Pacific regions. The names *Thenus* and *T. orientalis* were placed on Official Lists in Opinion 519 (August 1958).

Keywords. Nomenclature; taxonomy; Crustacea; Decapoda; SCYLLARIDAE; *Thenus orientalis*; shovel-nose lobsters; Indian Ocean; West Pacific Ocean.

1. *Thenus* Leach, 1815 (pp. 335, 338) is the sole genus of the subfamily THENINAE Holthuis, 1985 in the family SCYLLARIDAE Latreille, 1825. *Thenus* has been considered a monotypic genus, with only *Thenus orientalis* (Lund, 1793) (p. 22) recognised. *Thenus indicus* Leach, 1815 (p. 338), the nominal type species of the genus, has been treated as a synonym of *T. orientalis* for the past 150 years but in 1991 Holthuis (p. 227) noted: 'At present only a single species is recognised within the genus *Thenus*, but recent studies indicate the possibility that more than one species may have been confused under the name *Thenus orientalis*'. *Thenus indicus* has now been recognised as a distinct species (together with three new species) as part of our revisionary study of *Thenus* (Burton & Davie, in press). As previously grouped under the name '*Thenus orientalis*', these lobsters are of significant economic importance (see Holthuis, 1991 and Chan, 1998), and a substantial body of work exists covering general physiology, larval behaviour and development, behavioural studies, spermiogenesis, aquaculture and fisheries. It is thus important to fix unambiguously the identity of *Scyllarus orientalis* Lund, 1793 in order to prevent ongoing confusion.

2. In Opinion 519 (August 1958) the Commission placed on Official Lists the generic name *Thenus* Leach, 1815 and the specific name of *Scyllarus orientalis* Lund, 1793, then thought to be a senior subjective synonym of *Thenus indicus* Leach, 1815, the type species of *Thenus* by monotypy, and thus the valid name for the species. The typification of *S. orientalis* was not then considered.

3. The five species of *Thenus* that we have recognised (Burton & Davie, in press) are relatively cryptic and remarkably homogenous in appearance. We adopted a concordant approach to effectively separate the *Thenus* species, using starch gel isozyme electrophoresis, mitochondrial DNA sequencing, morphometrics and morphological comparisons. The morphometric and morphological comparisons rely heavily on leg and mouthpart characters to effectively discriminate species. The original description of *Scyllarus orientalis* Lund, 1793 does not provide sufficient information to distinguish it from its congeners. In addition there are problems concerning the positive identification of a type specimen and the very poor condition of the dry specimen labelled 'Type' in the Zoologisk Museum, Copenhagen (specimen no. ZMUC CRU7648) which lacks all legs and mouthparts.

4. Lund (1793) recorded the locality of *Scyllaris orientalis* as 'Fra Ostindien og China'. Holthuis (1991, p. 227) concisely summarised the difficulties regarding the type material of *S. orientalis*: 'Lund's material consisted of a specimen from Tranquebar, India, and one from China, so that both are syntypes; also a syntype is the specimen figured on pl. 2 fig. D in Rumphius' (1705) *Amboinsche Rariteitkamer*, this specimen not necessarily comes from Amboina, as the figure was made in Holland after a specimen of unknown locality and subsequently added to Rumphius' manuscript, it most likely originated from Indonesia. One of Lund's two specimens is in UZM, it is preserved in alcohol its condition is reasonable; the second specimen is lost. The third syntype specimen formed part of the collection of Henricus d'Acquet, burgomaster of Delft, The Netherlands, this collection was sold publicly in 1708 and the fate of the specimen of *Thenus* is unknown'.

5. The only surviving syntype specimen in the Zoologisk Museum, University of Copenhagen (ZMUC [= UZM]), is a dry specimen which is in very poor condition (i.e. not in spirit and not in 'reasonable condition' as stated by Holthuis, 1991; see para. 4 above). All the legs and mouthparts are missing (N. Bruce, in litt.) and it is impossible to attribute it reliably to any of the known *Thenus* species (Burton & Davie, in press). In addition, a relatively modern label states that it is a type but there is no original labelling that could be used to provide any clear proof that it was examined by Lund. As it is impossible to prove or disprove its type status, and as it is useless in its present state in helping to identify the true *T. orientalis*, the most appropriate action is to set it aside and erect a neotype.

6. Article 75.5 of the Code (Replacement of unidentifiable name-bearing type by a neotype) states: 'When an author considers that the taxonomic identity of a nominal species-group taxon cannot be determined from its existing name-bearing type (i.e. its name is a *nomen dubium*), and stability or universality are threatened thereby, the author may request the Commission to set aside under its plenary power the existing name-bearing type and designate a neotype'.

7. In view of this and the need to stabilise the usage of the name *Scyllarus orientalis* Lund, 1793, we propose that a neotype be selected to replace the existing putative syntype. The proposed neotype is a female specimen, 69.2 mm carapace length and 95.8 mm carapace width (at the level of the postorbital spines), collected from Padang, southern central coast of Sumatra, Indonesia, on 23 May 1997. It is deposited in the Zoological Reference Collection, National University of Singapore, under the catalogue number ZRC-1999.0481. Our choice of specimen for *S. orientalis* rests on the fact that there are two common *Thenus* species occurring sympatrically

between India and China (see para. 8 below) and two available names for them (*orientalis* and *indicus*). One of these species (*indicus*) is identifiable from existing type material and the most parsimonious course is to nominate a neotype which will allow the other to be identified as *T. orientalis*.

8. As noted by Holthuis (1991), the original syntypes were from three different localities over a considerable geographic range, Tranquebar (India), China and an unknown locality most likely to be Indonesia. The proposed neotype is from the Indian Ocean coast of Sumatra, Indonesia, and thus close to the centre of the geographic range defined by the original syntypes. *Thenus orientalis* as recognised by us (Davie & Burton, in press) is found from Okinawa, Vietnam, Philippines, Taiwan, Singapore, and across the Indian Ocean at least to the United Arab Emirates.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous fixations of type specimens for the nominal species *Scyllarus orientalis* Lund, 1793 and to designate as the neotype the specimen ZRC-1999.0481 deposited in the Zoological Reference Collection, National University of Singapore, described in para. 7 above;
- (2) to delete from the entry on the Official List of Specific Names in Zoology for the name *orientalis* Lund, 1793, as published in the binomen *Scyllarus orientalis*, that it is the valid name (senior subjective synonym) for *Thenus indicus* Leach, 1815, the type species of *Thenus* Leach, 1815, and to add an endorsement that it is defined by the neotype designated in (1) above;
- (3) to place on the Official List of Specific Names in Zoology the name *indicus* Leach, 1815, as published in the binomen *Thenus indicus* (specific name of the type species of *Thenus* Leach, 1815).

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